

## NOTES ON NESTLING ROBINS

BY W. J. HAMILTON, JR.

The following notes were made at Ithaca, New York, over a four-year period (1930-1933). Data were secured on four sets of Robin nestlings; the nests being located in exceptionally favorable situations which made observation easy. As little has been recorded on the change in weight, both gains and losses of altricial birds, the records tabulated may prove useful to some bird students.

Plumb (1884)\* made thirteen weighings of two nestling Robins from July 28 to August 9. The average weight at one day was 5.9 grams, and on the thirteenth day they averaged 55 grams. One bird showed a loss during the last two days in the nest; the other showed no loss but did not increase in weight during the same period. Plumb attributed the loss in weight to a severe infestation of lice.

In securing data on weights, the young birds were removed from the nest immediately upon hatching and weighed before they were first fed. It is possible two of the six birds weighed at hatching had been fed, but I am not certain on this score. Thereafter, the young were weighed at the same hour (7 A. M.) daily, until they had left the nest.

The average weight of twelve freshly laid Robins' eggs was 6.58 grams. Due to the evaporation of gases from the egg during incubation, a perceptible loss was noted after ten days of incubation. The small number of eggs weighed does not give indicative figures regarding the correct percentage of this loss. The weighings do suggest a loss of more than twenty-five per cent of the original weight.

Newly hatched Robins average 6.6 grams. At fourteen days, when leaving the nest, they weigh 56 grams. This is an increase amounting to more than eight times the original weight.

Age in days	No. weighed	Average weight of one (grams)	Gain or loss in weight	Daily per cent gain or loss in weight
At hatching	6	6.6	-----	-----
1	10	8.9	+2.3	+35
2	10	14.3	+5.4	+60
3	10	21.3	+7	+49
4	10	26.6	+5.3	+25
5	10	32.2	+5.6	+21.5
6	10	40.1	+7.9	+24.5
7	10	47	+6.9	+14.4
8	10	52	+5	+14.7
9	10	55.2	+3.2	+ 6.1
10	10	54.9	— .3	— .54
11	10	56.3	+1.4	+ 2.55
12	10	54.8	—1.5	— 2.66
13	10	55.7	+ .9	+ 1.64
14	6	56	+ .3	+ .54

\*Plumb, Charles. 1884. Increase in Growth of Young Robins. Science 4 (82), p. 159. Aug. 29.

The loss in weight on the 10th and 12th day is difficult to account for. The birds were in good health, not unduly disturbed, and free from all external parasites, while the remiges and rectrices were well erupted.

The nests under observation were favorably placed, being on window ledges, cornices of porches, and other low situations. Two that were placed on windows made it possible for the observer to take notes ten inches from the nest without being seen.

The food during late May and early June consisted principally of cutworms. From the earliest period these larvae form a prominent share of the menu. From two to six, depending on the size, are brought to the nest at one time. Usually two large cutworms represented an average meal throughout the day. By closely observing several pairs of Robins throughout the nesting season, it was possible to estimate the daily number of visits these birds paid to the nest. An average of ten visits per hour, from 5 A. M. to 7 P. M. accounts for 140 daily trips made by the old birds. Being extremely conservative, we might reckon a hundred trips daily to be a fair average throughout the fourteen days that four sets of nestlings spent in the nest. This would entail 1400 trips by the parents in feeding the young.

In order to determine the quantity of food eaten by the young birds, the freshly fed cutworm, adult insects, worms, etc., were occasionally removed from the young with blunt forceps, immediately upon being fed by the parent birds, and immediately weighed. This procedure was inaugurated while the birds were but a day or two old, and continued on alternate days until the young left the nest. By this method it was estimated the birds brought to the young approximately two grams of food at each visit, or a daily feeding of 200 grams of animal matter to the nestlings, be they three, four, or five.

The estimate is high for the early days in the nest and low for the days immediately preceding the time of leaving the nest. It is thought to be fairly accurate and, at least, gives some clue to the amount of food eaten. Robins feed their young, apparently regardless if there be three or five, approximately 3.2 pounds of food during the two weeks while in the nest. The observations were made several weeks before cherries ripened and, because of this, the food consisted almost entirely of animal matter.

Birds take the most available food, providing it is acceptable to them. During an entire day in early June a pair of Robins brought

to their young numbers of the large crane fly (*Tipula trivittata*), which were everywhere common. The mating insects were easily caught, and frequently a bird would approach the nest with two, or even three, pairs of these mated flies.

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## THE DUCK SITUATION IN THE PRINCE ALBERT DISTRICT, CENTRAL SASKATCHEWAN

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There has been a great deal of controversy lately over the decrease in the numbers of ducks; so much so, that the writer decided to make a fairly detailed survey of a particularly favorable area in an attempt to draw conclusions as to the existing conditions in that area.

This report is based on a survey of ninety-nine potholes and sloughs on sixteen quarter-sections about five miles south of the city of Prince Albert.

The Prince Albert district is on the dividing line between the typical Canadian and Transition life zones. It is in the heart of the pothole country and as a breeding ground for ducks is looked upon as excellent. The area worked consisted of a creek, which backs up in the spring to keep the water level of some of the sloughs fairly constant throughout the summer, wooded areas with aspens as the main tree, field crops such as wheat, oats, and barley; and hay meadows. The surface of the land is rolling which accounts for the large number of sloughs and potholes.

It was necessary to work quickly in order that the water levels of all the area worked would be in the same ratio with one another, to avoid counting one brood more than once, and also to have the "cover" of one slough to compare with that of another. The work was started late in July in order that the water levels and food might be more readily discernible.

The potholes and sloughs examined varied in size from one-half acre to twelve acres, the average being 2.6 acres. The areas taken were those of the open water. Every pothole in the list has open water throughout the summer.

The Graph 1 (Fig. 12) shows the number and size of the bodies of water examined.

### DATA FOR GRAPH 1

No.	Smallest	Largest	Average
99	1/2 acre	12 acres	2.6 acres